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ABSTRACT

This document notes that a recent threat to American's youth is the risk of infection from the human immunodeficiency virus (HIV). It views youth at high risk for alcohol or other drug use as also being, in all probability, at highest risk for exposure to HIV, and suggests that programs set up to prevent adolescents from becoming involved with alcohol or other drugs can apply many of the same principles to stopping the spread of HIV. The information presented in this technical report was selected to inspire organizations to join in the prevention effort, to provide an outline for developing or adding to a program, and to direct staffs to a variety of resources. It presents recent statistics on the prevalence of HIV infection among adolescents, the epidemiology of the disease among this age group, and groups at highest risk for infection. The section on adolescents at highest risk focuses on ethnic and racial youth, adolescent homosexual and bisexual males, adolescent females, runaway and homeless youth, delinquent and incarcerated youth, and sexually abused youth. The document provides a brief overview of methods for starting a program and building community support. Strategies found effective in intervening with youth at risk for HIV exposure are described, references are provided, and a list of national resources is appended. (NB)

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Office for Substance Abuse Prevention

Preventing HIV Infection Among Youth

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OSAP Technical Report—5

Preventing HIV Infection Among Youth

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Alcohol, Drug Abuse, and Mental Health Administration
Office for Substance Abuse Prevention
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OSAP Technical Reports are prepared by the Division of Demonstrations and Evaluation, Office for Substance Abuse Prevention (OSAP), and published by its Division of Communication Programs. The primary objective of the series is to facilitate the transfer of prevention and intervention technology between and among researchers, administrators, policymakers, educators, and providers in the public and private sectors. At times, this series will publish reviews of innovative or exemplary programming models and reviews of evaluative studies conducted by OSAP grantees.

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OSAP Technical Report Series

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Foreword

In 1983 and early 1984, it was concluded that the human immunodeficiency virus (HIV) was the cause of AIDS, which itself was first recognized in this country in 1981. In the decade just passed, our knowledge about AIDS and HIV has increased dramatically, yet so have the number of cases reported each year. While AIDS is a recognizable, and therefore quantifiable, disease, HIV infection is more insidious: an individual may harbor the virus for as many as 10 years before exhibiting symptoms. During this time, the infection can be passed unknowingly to sexual partners, newborn babies, recipients of blood transfusions and organ transplants, or anyone who comes in contact with infected body fluids. It becomes obvious, then, that the prevention of HIV infection is the key to controlling the epidemic at hand.

Equally obvious is the fact that HIV infection is not limited to one or even a few populations. The number of populations at risk grows daily; there is clearly a potential for the spread of infection among adolescents—particularly youth at high-risk for alcohol and other drug (AOD) problems.

For this reason, it is crucial that those involved in AOD use prevention and treatment become knowledgeable about HIV and that they incorporate information about HIV infection—how it is detected, spread, and prevented—into AOD programs.

This technical report, the fifth in a series prepared by OSAP's Division of Demonstrations and Evaluation, is intended as a major step toward helping prevention practitioners make this vital information link. It describes the role that AOD programs can play and also lists a wealth of resources such as information centers and hotlines, State health and education departments, sources of legal information, and directories and publications.

Prevention/intervention practitioners already have the skills they need to bring this vital information to those they serve. This volume strives to provide the tools by which their proven methods of communicating sensitive information, motivating and assisting behavior change, and coordinating community programs can be integrated with the efforts of the health care and research community to stop the spread of this deadly epidemic. We hope that the knowledge shared in this volume will stimulate the development of combined, effective AOD use and AIDS prevention programming throughout the Nation.

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Preface

A recent and, indeed, grave threat to our Nation's youth is the risk of infection from the human immunodeficiency virus (HIV). Youth at high risk for alcohol or other drug use are, in all probability, at highest risk for exposure to the virus. Programs set up to prevent adolescents from becoming involved with alcohol or other drugs can apply many of the same principles to stopping the spread of this deadly virus.

This technical report presents recent statistics on the prevalence of HIV infection among adolescents, the epidemiology of the disease among this age group, and groups at highest risk for infection. It provides a brief overview of methods for starting a program and building community support. Strategies found effective in intervening with youth at risk for HIV exposure are described, and a list of national resources is appended.

This information has been selected to inspire organizations to join in the prevention effort, to provide an outline for developing or adding to a program, and to direct staffs to a variety of resources.

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Introduction

The passage through adolescence includes a new and dangerous challenge: avoiding infection with the human immunodeficiency virus (HIV). Experts have reason to fear that adolescents may be the next hot spot in the epidemic (Squires 1989). An unknown, but probably significant, proportion of youth at risk for alcohol and other drug (AOD) problems are likely to be at risk for HIV infection as well. By their very nature, AOD use prevention programs are in an excellent position to play an important role in preventing HIV infection among adolescents and younger children. The epidemic places a new responsibility on every prevention staff member—a new concern that goes with the job.

Acquired immunodeficiency syndrome (AIDS) was first identified in 1981. By 1991, it had become the leading cause of death among injected drug users and people with hemophilia in the United States (Curran et al. 1988) and the leading killer of women between the ages of 25 and 34 in New York City (Chu and Buehler 1990).

By March 1991, 167,803 cases had been reported nationwide, and more than 61 percent had already died (CDC 1991b). In 1990 alone, 42,447 cases were reported, a 16-percent increase over cases reported in 1989 and representing 16.8 people per 100,000 population. AIDS is increasing more rapidly in metropolitan areas—the average rate in communities with 500,000 or more people rose from 20.8 per 100,000 in 1989 to 24.1 in 1990 (CDC 1991a). No cure has been found, although some therapeutic agents can slow development of the syndrome.

AIDS is the tip of the iceberg of HIV infection. In 1984, researchers discovered that the syndrome was caused by a virus—HIV. Without treatment, within 7 to 10 years about 50 percent of HIV-infected people have developed AIDS (Hessol et al. 1988). By attacking the immune-

system cells that protect the body against invaders, the virus allows a variety of severe infections and cancers to develop unchecked and can lead to medical complications and death.

New AIDS cases are now reported by every State and territory to the Centers for Disease Control. The epidemiologic case definition of AIDS has changed somewhat over the years, but in general, the syndrome is identifiable and therefore countable. HIV infection is far less visible. People can be symptom free for years while unknowingly spreading the virus to their sexual partners and needle-sharing friends. Many women do not know they are infected until their babies are born with HIV antibodies. The CDC estimates that 1 million Americans are infected with HIV and that the virus is transmitted to at least 40,000 more people every year (CDC 1990).

Testing and counseling have become imperative. Individuals already infected need to be diagnosed, treated, and taught how to avoid spreading the virus. They need both physical and psychological help to prolong life and to deal with the problems that result from HIV infection. Uninfected people need to understand the degree of risk they face and the behaviors they need to maintain to reduce their risk.

In a very real sense, "the HIV epidemic...is composed of several interrelated but separate epidemics, each with its own dynamic" (OASH 1990). AIDS was first identified among homosexual/bisexual males. People with hemophilia were infected early, before screening blood for HIV was developed. Today, 26 percent of new cases of AIDS in men and 51 percent in women occur in persons who use unclean needles for injecting drugs; 33 percent of cases in women are attributed to heterosexual contact (CDC 1991a).

African Americans and Hispanics have a disproportionate share of HIV infections. Low socio-

economic groups also have high rates, but the virus is not restricted to the poor. Preliminary studies indicate that approximately 1 out of every 500 college students is infected with HIV (American College Health Association 1988).

Each of these epidemics must be handled differently. They differ by transmission route, ethnicity/culture, language, socioeconomic status, and geography. Community values and attitudes also dictate the type of program that will be effective in combating the spread of the virus. It is essential that staffs of AOD use prevention programs—and other programs serving youth—be knowledgeable about HIV infection. Ideally, programs can focus on both problems, using what has been learned about AOD use prevention in community efforts to prevent the spread of HIV. Preventive efforts focused on HIV infection can lead to reductions in AOD use, just as AOD use prevention strategies can help to interrupt the spread of the virus.

While little attention has been given to integrating the two types of interventions for the youthful population, there is a rich and growing body of prevention programming knowledge upon which to draw. Although empirical evidence about intervention effectiveness is sparse, much has been learned about prevention methods and techniques:

- How to reach high-risk youngsters and their parents
- How to communicate sensitive information
- How to motivate individuals to change attitudes and behaviors
- How to assist and support behavior change over time
- How to coordinate community prevention efforts

For example, social influence strategies, based on learning theory, have proven to be effective in changing adolescent risk behaviors (Hawkins et al. 1985). By teaching youngsters to recognize and resist social influences (e.g., peer pressure) while helping them build self-confidence, investigators have found that youngsters will be less inclined to use drugs. These same methods and techniques can be applied to efforts to prevent the spread of HIV among youth.

Scare tactics alone—such as fear-evoking messages—do not generally result in positive behavior changes. For prevention messages to work, the problem (e.g., health consequences of smoking) must be perceived as a personal risk by individuals in the target groups (Janz and Becker 1984).

It is not difficult to show that HIV infection represents a personal risk to all youngsters who use drugs (particularly by injection) or who are sexually active. But there is much to consider in organizing prevention strategies. Special attention must be given to how the information is presented and who presents it. HIV information must be relayed in clear language that is consistent with the norms and values of the target group and community. It must also be accurate and age appropriate.

This report provides a general framework within which prevention programs might proceed:

1. What do staff need to know about the problem?
2. Which youth are at risk? How can youth at risk for HIV infection be identified?
3. What are the needs? To what extent are they being addressed in the community?
4. How can programs best intervene to interrupt the transmission of HIV infection among youth?

HIV Infection Among Adolescents

Although youngsters aged 13-19 account for less than 1 percent of the reported AIDS cases, the number of adolescent cases is doubling every year. As of January 1991, the teenaged AIDS population was primarily male (75 percent); 58 percent belonged to ethnic/racial populations, mostly African American (37 percent) and Hispanic (19 percent); and a majority resided in metropolitan areas (CDC 1991a).

The number of adolescents who are infected with HIV is not known. However, 20 percent of AIDS cases reported so far were diagnosed when the patient was 20- to 29-years-old (CDC 1991a). With the 10-year median incubation period, this means that many were probably infected with the virus as teenagers.

Existing data suggest that the current number of HIV-infected teenagers may be substantial, especially among youth in high-risk environments. For example, the seropositive (evidence of HIV in the blood) rate among 17- to 20-year-old civilian military recruits in 1985-86 was 0.6/1000, about half that for recruits of all ages (Burke et al. 1987). The seropositive rate among the more economically disadvantaged Job Corp participants, aged 16-19, was about double that for youthful military recruits, 3.3/1000 (CDC 1987). Among runaway and homeless youth in New York City—an AIDS epicenter that contains 20 percent of the reported adolescent AIDS cases—8 percent of those under age 19 and 15 percent of youth 19-20 years of age were seropositive (Kennedy 1988). Finally, in New York City, 10 percent of HIV-positive babies were born to women under age 21 who had manifested no symptoms of HIV infection prior to childbirth (Squires 1989). These findings support the assumption that HIV infection among adolescents is cause for alarm, despite the low incidence of AIDS in this population.

While the adult population is at risk primarily because of homosexual/bisexual activity or injected drug use, the epidemiology of adolescent HIV infection is somewhat different. These differences will be of importance as prevention programs plan strategies for identifying and intervening with youth:

- Over two-thirds (68 percent) of the 13- to 15-year-olds with AIDS in 1987 were persons with hemophilia who probably acquired the virus from transfusions. A substantial proportion (41 percent) of the 16- to 18-year-old AIDS cases also had hemophilia, though only 6 percent of those 19-21 years of age fell into this category (Gayle et al. 1988). HIV screening and heat treatment of clotting factor concentrates have greatly reduced this transmission risk. Among new cases reported in 1990, 31 percent of 13- to 19-year-olds and only 2 percent of 20- to 24-year-olds were in this category (CDC 1991a). Since the blood supply is now considered safe, and no information seems available on other risk factors among adolescent hemophiliacs, this group is not discussed further. Programs, however, may wish to consider including this group in their interventions.
- Risk for HIV infection through heterosexual contact is greater among adolescents—especially girls—than among the adult population (Hein 1989).
- A smaller proportion of adolescent males than adult males had contracted HIV infection through homosexual or bisexual contact (26 vs. 66 percent) by February 1991 (CDC 1991a). This pattern does not hold for African Americans and Hispanics, however. Proportionately more adolescent than adult African American

males contract HIV infection through homosexual/bisexual contact—36 vs. 15 percent; the corresponding figures for teen and adult Hispanic males are 17 and 10 percent. For all racial/ethnic groups, nearly twice as many 19- to 21-year-olds as 16- to 18-year-olds contract HIV infection through homosexual/bisexual activity (54 vs. 23 percent).

- African American and Hispanic teens are proportionately more likely than their adult counterparts to contract HIV infection (53 vs. 38 percent as of 1987) and to become infected through heterosexual contact (9 vs. 4 percent).
- A greater proportion of adolescent females than adult females have AIDS (14 vs. 7 percent) (Gayle et al. 1988).

Risk Factors for HIV Infection

Adolescents are at risk for HIV infection. Some groups, however, are at higher risk than others. Before focusing on specific groups, risk factors for all adolescent groups are covered.

Risk Factors

The following risk factors are briefly discussed: unsafe sexual practices, AOD use, intra-personal and biological factors, and knowledge and attitudes about HIV infection and risk reduction behaviors.

Unsafe Sexual Practices

As is now widely known, all forms of sexual intercourse are routes for transmission of HIV. Anal intercourse places one at highest risk. Use of condoms during anal, vaginal, or oral sex greatly decreases risk of HIV infection. Having only one sexual partner eliminates risk, but only if the partner is not infected.

Sexual adventurers (Sorensen 1973) who have multiple partners over their adolescent years tend to be at high risk for HIV infection. Only a minority of sexually active adolescents consistently take measures to prevent contracting a sexually transmitted disease (STD) or pregnancy. Some figures:

- Based on 1988 national survey data, 86 percent of adolescent males and 77 percent of teenaged females have engaged in sexual intercourse by age 20 (National Center for Health Statistics 1988; Sonenstein et al. 1989). The average age of first intercourse was 16 in 1983 (Zelnick and Shah 1983), though the average age may be as low as 12 in some communities (Clark et al. 1984). A 1990 survey found that one-third of never-married 16-year-olds in the United States had had sexual intercourse (Alan Guttmacher Institute, unpublished).
- Most sexually active teenagers do not use condoms or fail to use them consistently. Among 15- to 19-year-olds nationwide in 1988, condoms were used by only 26 percent of the partners of sexually active women and 57 percent of sexually active males (CDC 1988b). This indicates some progress, however. Condom use at last intercourse increased from 21 percent in 1979 to 58 percent in 1988 among metropolitan area males aged 17 to 19 (Sonenstein et al. 1989).
- While no good figures exist, surveys conducted over the past several decades have reported homosexual and bisexual experiences among 17 to 37 percent of adolescent males (Remafedi 1988, cited in CPO 1989). Anal intercourse is a major risk factor in the spread of HIV infection.
- Among some teen groups, females engage in anal intercourse as a method of birth control, thereby possibly increasing their risk for infection.
- Females who become infected with HIV through sexual transmission tend to be younger at diagnosis of AIDS than are males with any risk factor or women who were exposed through injected drug use. Young women tend to have sexual intercourse with older men who have a higher chance of exposure to HIV through multiple partners or injected drug use (Allen and Curran 1988).
- The sexual adventurer profile—one who by age 19 has had 17 sexual partners—described approximately 41 percent of sexually active adolescent males and 13 percent of sexually active females in 1973 (Sorensen 1973). A later report (Madaras 1988, cited in CPO 1989) showed that one in six sexually active high school girls had

had at least four different sexual partners. Such behavior greatly increases the risk for HIV infection since it provides an easy route for infection to spread (Squires 1989).

- Each year, 2.5 million teenagers contract an STD, or about one in six teenagers (Madaras 1988, cited in CPO 1989). People with a history of STDs have a higher incidence of HIV infection than people with no such history (CPO 1989).
- Each year, 1 in 10 teenage girls becomes pregnant (Alan Guttmacher Institute 1986). CDC estimates that teenager pregnancies number 1 million (Tolsma 1988).

These patterns vary geographically and by group. For example, in a recent survey of 7,013 high school students in nine States and six cities, the percentages of students who reported having had sex at least once ranged across sites from 29 to 76 percent. The percentages reporting sex with three or more partners also varied, ranging from 15 to 43 percent (Kann et al. 1989). Other variations in sexual activity and condom use are discussed under *Groups at Highest Risk*.

Alcohol and Other Drug Use

Alcohol and other drug use places individuals at risk for HIV infection in several ways. Sharing unclean needles and other drug paraphernalia with infected persons is the major risk. The National Institute on Drug Abuse (NIDA) estimates that between 1.1 million and 1.3 million injected drug users are in the United States and that 70 to 90 percent share injection equipment (Mantell and Schinke 1988). Using new needles and bleach-cleaning all drug injection equipment are likely to decrease risk but are difficult behaviors for many drug users to enact. HIV-infected drug users are primarily young males, aged 20 to 29, who are sexually active and have multiple partners (Schoenbaum et al. 1986). An estimated 23 percent of the adolescents with AIDS in New York City are injected drug users (Squires 1989).

Whether injected or not, AOD use can be a risk factor in the spread of the virus. It can increase

risk for HIV infection by loosening inhibitions and increasing the likelihood that adolescents will engage in unprotected sex (Moscicki et al. 1988) or trade sex for drugs or money. The annual use of crack cocaine among adolescents—about 5.3 percent of high school seniors (Johnston et al. 1991) and almost 1 percent of teens aged 12 through 17 (NIDA 1989a)—has led to increases in exchanging sex for drugs or money (Squires 1989).

Use of illicit drugs among adolescents has been declining. However, the 1990 nationwide survey of high school seniors (Johnston et al. 1991) indicated that 47.9 percent of seniors had used illicit drugs at least once in their lives; 1.3 percent had used heroin and 9.4 percent, cocaine (lifetime prevalence)—the two drugs most likely to be injected. The 1990 national household survey of drug and alcohol use (NIDA 1991a) showed that 22.7 percent of individuals 12 through 17 years of age had ever used illicit drugs sometime during their lives; 2.6 percent had ever used cocaine and 0.7 percent had used heroin.

Other studies suggest that injected drug use may exceed 6 percent among high school students in some areas. One survey in nine States found that the percentage of students who ever injected drugs ranged across sites from 2.8 to 6.3 percent (Kann et al. 1989). In a San Francisco survey, 3.7 percent of high school students reportedly engaged in injected drug use. Among adolescent groups likely to be out of school, such as runaways and incarcerated youth, reports of injected drug use ranged from 7 percent in Dallas (Haley et al. 1989) to 10 percent in Los Angeles (Huscroft et al. 1989) and 12.9 percent in San Francisco (DiClemente and DuNah 1989).

Interpersonal and Biological Factors

Adolescence is a time of increased focus on personal identity, independence, strong identification with peer groups, and, for some teens, experimentation with sex and drugs. For troubled adolescents, experimentation may become habitual and self-destructive. Personal difficul-

ties, such as low self-esteem, may lead youth to engage in behaviors that place them at risk for AOD use as well as HIV infection. While the role of psychological problems in relation to risk for HIV infection is undocumented, such difficulties are associated with behaviors that place youngsters at risk for AOD use; some of these actions also place them at risk for HIV infection.

Knowledge and Attitudes

To reduce their risk of becoming infected with HIV, adolescents first need to have correct knowledge about how the virus is transmitted and what they can do to reduce or eliminate risks in their lives. Following that, they need to translate knowledge into preventive, risk-reducing behaviors.

A number of surveys suggest that knowledge about HIV among adolescents is spotty. Gallop surveys indicate teenagers' awareness of how the virus is transmitted has increased. However, these and other surveys also indicate that substantial minorities of adolescents lack knowledge about HIV transmission modes and are unable to name specific measures to prevent infection (Mantell and Schinke 1988). One random-digit telephone survey of 860 16- to 19-year-olds found that 22 percent were unaware that HIV is transmitted by semen, and 29 percent did not know it could be transmitted through vaginal fluids (Strunin and Hingson 1987).

One San Francisco study found that three out of four high school students were worried about contracting AIDS, and four out of five were afraid of AIDS (Mantell and Schinke 1988). In contrast, in a Massachusetts survey, 54 percent of adolescents said they did not worry about getting AIDS (Strunin and Hingson 1987). A sample survey found that the level of HIV knowledge was typically unrelated to behavior. However, perception of susceptibility to HIV infection was strongly related to reductions in risk behaviors, such as increased condom use, decreases in the number of sexual partners, and decreases in anal sex (DiClemente and DuNah 1989).

Research suggests that adolescents who (1) believe condoms are effective in preventing transmission of HIV and (2) are concerned about

becoming infected are 3.1 and 1.8 times more likely than others to *always* use condoms. Those who (1) carry condoms and (2) discuss their use with doctors are 2.7 and 1.7 times more likely than those who do not to *always* use condoms. On the other hand, those who (1) believe condoms reduce sexual pleasure and (2) are embarrassed to use condoms are *less* likely to use them. Average daily alcohol use and frequent use of other drugs have been independently associated with less condom use (Hingson and Strunin 1989).

In all likelihood, other attitudinal and experiential factors influence adolescents' decisions to reduce behaviors that place them at risk for HIV infection. One may well be the "personal fable" egocentrism that leads some teenagers to believe they are invulnerable (Steinberg 1991). Another may be the fact that few adolescents know any teenagers with AIDS and, thus, lack persons with AIDS peer models. In many cases, the problem is insufficient knowledge about the disease and how to avoid it, coupled with an absence of information and skills in risk-reduction behaviors. Prevention programs for youth can intervene in effective ways, as shown in the last section of this report.

Adolescents at Highest Risk

While the major factors that place people at risk for HIV infection are potentially present for a substantial number of adolescents, some are at seemingly higher risk than others. The discussion here focuses on the following categories:

- Ethnic/racial youth
- Adolescent homosexual/bisexual males
- Adolescent females
- Runaway and homeless youth
- Delinquent and incarcerated youth
- Sexually abused youth

Many youth fall into two or more of these categories. For most, risk is likely to increase with age.

Ethnic/Racial Youth

Proportionate to their representation in the U.S. population, African American and Hispanic youth are overrepresented in the AIDS population. African Americans comprise 12 percent of the general population, while African American youth represent 37 percent of the AIDS cases among 13- to 19-year-olds. Similarly, Hispanic youth comprise only 6 percent of the population, but 19 percent of teenaged AIDS patients (NAN 1989; CDC 1991a). Other ethnic/racial populations—Asians and American Indians—do not appear to be overrepresented.

Relative to their adult counterparts, African American male adolescents are more apt to be infected because of homosexual/bisexual contact, and Hispanic youth because of injected drug use (Gayle et al. 1988). African American and Hispanic adolescent females, as discussed below, are more likely to become infected through heterosexual contact.

African American adolescents, in general, may be at higher risk for infection than other teen groups because they are more likely to engage in sexual intercourse rather than pre-coital sex behaviors (Smith and Udry 1985). African American teens are more likely than their White peers to have engaged in intercourse by age 19 (80 vs. 60 percent) (Zelnick and Kantner 1980).

Compared to Whites, Hispanic teens may be at higher risk for infection because of higher rates of STDs, pregnancy (which may dampen the immune system), and drug use (Mantell and Schinke 1988).

Adolescent Homosexual/Bisexual Males

The extent of homosexual/bisexual activity among teenaged boys is not known but appears to increase with age. One survey found that 56 percent of boys aged 13–19 who had had at least one homosexual encounter had their first experience when they were 11 or 12 years old, and 2 percent were currently engaged in homosexual activity (Sorensen 1973).

The risk among gay teenagers is increased by the stigmatization attached to homosexuality, since this leads many gay adolescents to have casual sex in public places (Remafedi 1987). A small-scale study of 50 homosexual males aged 12–18 in New York City found that these youth were likely to have multiple sex partners. Most, however, had a high general knowledge of HIV infection and positive attitudes toward safe sex, and these attitudes were highly correlated with condom use and number of partners (Meyer-Bahlburg et al. 1989).

Adolescent Females

Adolescent females seem at especially high risk for HIV infection. The proportion of teen girls with AIDS (14 percent) is higher than the proportion of adult women (10 percent) with AIDS; 46 percent of infected teenaged girls contracted the virus from a sexual partner.

However, when ethnicity is considered, risk levels differ substantially for adolescent females and males. As of January 1991, percentages of AIDS cases among 13- to 19-year-olds by gender and ethnicity (CDC 1991a) were:

	African American	Hispanic	White
Females	38%	20%	16%
Males	62	80	84

Preliminary studies also suggest a higher ratio of female to male seroprevalence in the teenaged population, as compared to adults. For example, the male/female ratio among 17- to 20-year-old military recruits was 0.5:1 in 1985–86 (Burke et al. 1987) compared to 3:1 for all recruits and a national ratio of 15:1 (Hein 1989). A similar male/female ratio was found among Job Corps participants; in this sample, White females from the South had a higher seroprevalence rate than Southern males (Garrison, personal communication, October 1989). In New York City, the adolescent male/female ratio for seropositivity in one sample was 2.9:1 (Vermund et al. 1988).

Adolescent girls may be at additional risk because of physiologic vulnerability to viruses

during this phase of development (Hein 1987). Some are at risk through contaminated needles used in injecting illicit drugs or steroids, ear piercing, and tattooing. Many are at great risk because they choose sexual partners older than themselves who have had multiple sexual encounters and, therefore, a higher likelihood of infection with the virus.

Other girls have multiple sex partners themselves, again increasing risk for infection. One study of 104 adolescent females (primarily White and Hispanic) who were attending a family planning clinic found 19 percent had more than five sexual partners in their lifetime and 11 percent had more than one in the 2 months prior to interview. Condom use was low (44 percent had never used them, and only 27 percent always used them with primary partners). Two percent of these adolescents had injected drugs, and 21 percent had a primary partner known or thought to have engaged in injected drug use. Twelve percent had engaged in anal intercourse (Kegeles et al. 1989).

In a companion study of 114 adolescents attending the family planning clinic, many had multiple sexual partners. Ten percent were engaging in anal intercourse (Catania et al. 1989), a method that some teenagers rely on to avoid pregnancy but also one that places them at particularly high risk for HIV infection (Mantell and Schinke 1988).

Girls who become pregnant during adolescence may be those most at risk in the female teenaged population. Further, data on adolescents with HIV infection giving birth to babies in New York State suggest that infection rates typically increase with age:

15-year-olds	.08 percent
16-year-olds	.30
17-year-olds	.32
18-year-olds	.39
19-year-olds	.62

Statewide, infection rates for teens were highest for Hispanics (0.89 percent), followed by African Americans (0.59 percent) and Whites (0.1

percent). The rate for New York City was three times higher than that for the rest of the State (Novick et al. 1989). Adolescent mothers may be asymptomatic and learn of their infection only through the birth of infants with HIV antibodies.

Runaway and Homeless Youth

About 1 million teenagers run away from home each year. An estimated 187,500 runaways are involved in illegal activities that are likely to increase their risks for HIV infection, including drug use, prostitution, and solicitation (U.S. Department of Health and Human Services 1986). Even runaways who are not involved in drug use or prostitution are at increased risk of having sex with an injected drug user (Hersch 1988). Anonymous HIV tests conducted at Covenant House, New York City, showed that more than 7 percent of street youngsters were seropositive (NAN 1989).

One study of 213 runaways, aged 11 to 16, in Dallas indicated that 76 percent were sexually active; only 13 percent always used condoms. Seven percent admittedly injected illicit drugs (Haley et al. 1989). Another study of 100 runaways, aged 12 to 18, in New York City showed that a majority had had 3 or more sexual partners and 12 or more sexual encounters over the past 3 months, but that 89 percent had not used condoms. About three-fourths of these youth had a moderately high level of HIV knowledge and positive attitudes toward safe sex (Meyer-Bahlburg et al. 1989).

In addition to being at high risk for contracting HIV, runaway (and homeless) youth can serve as a conduit for the transmission of the virus from street subcultures to mainstream America. Many return to their families and communities and resume old relationships, unaware of the risks and consequences of their street activities.

Delinquent and Incarcerated Youth

A substantial number of adolescents are in contact with the criminal justice system. Property crime arrests peak at age 16 and drop by half by age 20, whereas violent crime arrests

peak at age 18. Girls are more likely than boys to be classified as status offenders (acts that would not be considered criminal if committed by adults, such as running away). Adolescent males are far more likely than females to be involved in serious offenses (DiClemente and DuNah 1989).

In 1981, half of all persons arrested for violent and property crimes were under age 20; four-fifths of these adolescents were male. These adolescents were disproportionately African American and Hispanic compared to their proportion in the general population and were primarily economically disadvantaged (U.S. Department of Justice 1983). Their lives were often marked by familial conflict and instability, behavioral and academic problems, and other risk factors implicated in AOD use.

Youth involved with the legal system appear to be more likely than other youth to be sexually active, involved in injected drug use, and highly aware of HIV infection. For example, among 417 incarcerated youth, aged 15 to 17, in Los Angeles, 90 percent were sexually active. Casual sex with multiple partners was common, condom use rare, and small percentages engaged in anal or oral sex. One-half admitted to drug use and 10 percent to injected drug use. Most (90 percent) were knowledgeable about AIDS, 50 percent considered themselves at risk, and more than 60 percent wished to be tested for HIV infection (Huscroft et al. 1989).

Further study of 262 of these minors (aged 16-17) showed that 47 percent used alcohol during sex, and 11 percent used other drugs. Also, 17 percent had contracted a venereal disease, most commonly gonorrhea (Morris et al. 1989).

Among 113 youngsters in detention in San Francisco, almost 13 percent reported engaging

in injected drug use, compared to less than 4 percent of high school students in the city. A majority (86 percent) of these youth reported having more than three sex partners in their lifetime, compared to only 15 percent of their high school peers (DiClemente and DuNah 1989).

In two studies of more than 500 male incarcerated youth in the mid-Atlantic region, Rolf et al. (1988) reported that 96 percent in one study (n=198) were sexually active and began having intercourse at an early age (median age=11). Nearly three-fourths (73 percent) had had intercourse in the past 3 months, and over one-third (36 percent) had multiple partners. More than 19 percent had engaged in male/female anal sex, 2 percent reported homosexual sex, and over 14 percent had engaged in sex with an injected drug user. Only 15 percent reported using a condom in their last intercourse; 8 percent had never used a condom, and 31 percent did not use condoms with their current partners (most of whom were teenagers). Over one-fourth had fathered a child. Yet the majority of these delinquents knew the salient facts about and risks for HIV infection.

Sexually Abused Youth

While the research literature does not yet address risk for HIV infection through sexual abuse, the potential risk may be worthy of some attention among prevention specialists. One study of teen inpatient AOD users found that 42 percent of the male and 90 percent of the female inpatients reported being sexually abused (Roshenow et al. 1988); the HIV status of their abusers is unknown. Given that AOD-using youngsters are frequently reared by AOD-abusing fathers, possibly injected drug users, this group may be at especially high risk.

Planning the Program

Defining Goals

An important first step in planning a program is to define the program's goals. HIV infection prevention programs for children or youth will find it useful to formulate goals in conjunction with conducting a needs assessment (see below). This will help define the group or subgroups most in need, those who are not yet being reached, and those for whom a program can intercede most effectively, given the experience and capabilities of its intervention team.

In addressing goals for school-based health education about HIV, the Centers for Disease Control (1988, p. 4) defined several objectives that may be useful to consider. These would:

...enable and encourage young people who *have not* engaged in sexual intercourse and who *have not* used illicit drugs to continue to—

- Abstain from sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage.
- Refrain from using or injecting illicit drugs.

For young people who *have* engaged in sexual intercourse or who *have* injected illicit drugs, programs should enable and encourage them to—

- Stop engaging in sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage.
- To stop using or injecting illicit drugs.

In this same publication, CDC staff further noted:

Despite all efforts, some young people may remain unwilling to adopt behavior that

would virtually eliminate their risk of becoming infected. Therefore, ... programs [should] address preventive types of behavior that should be practiced by persons with an increased risk of acquiring HIV infection. These include:

- Avoiding sexual intercourse with anyone who is known to be infected, who is at risk of being infected, or whose HIV infection status is not known;
- Using a latex condom with spermicide if they engage in sexual intercourse;
- Seeking treatment if addicted to illicit drugs;
- Not sharing needles or other injection equipment; and
- Seeking HIV counseling and testing if HIV infection is suspected.

Members of the National Health Policy Forum (1988) summarized current practices and suggested four main goals for prevention education programs for adolescents:

- Increase adolescents' awareness of HIV infection and the factors that place them at risk for infection.
- Describe how the virus is transmitted and what can be done to prevent its spread.
- Dispel misconceptions about how HIV infection is contracted.
- Motivate adolescents to change those behaviors that place them at risk for HIV infection.

A consensus is emerging that more research and experimentation with a variety of program models are needed to define program goals more specifically and determine what will work. The most important goal, at any rate, must be to affect young people's behaviors in ways that will

prevent, eliminate, or, at the very least, reduce their risk for HIV infection. Strategies for achieving these basic objectives are described later in this report.

Assessing Needs

Planners of programs to prevent the spread of HIV among youngsters can benefit by a needs assessment for a number of reasons:

- Risks are higher among some youth groups than others.
- Risks are higher, *currently*, in some areas of the country,¹ though this may change given the increasing number of cases attributed to infection through heterosexual contact.
- Prevention programs at Federal, State, and local levels may already be intervening with youth in a given community.

The following guidelines for planning, developing, and implementing HIV infection prevention programs for youth are based on a wide range of experiences:²

- HIV infection prevention efforts should be long-term and continuing, since one-shot, quick fix approaches have proven ineffective.
- HIV infection prevention should be seen as part of a broader approach to helping young people deal with multiple problems and risks. The long-term goals should be to motivate and prepare them to work toward a positive, productive future for themselves and their community.
- The program should be part of a broad, community-wide approach to dealing with

the HIV infection epidemic. It should be well coordinated and involve a wide spectrum of community leaders and opinion-makers.

- In attempting to affect the behavior of youth, the best attitude is one of support and advocacy.

Where To Begin

A crucial initial step in planning and developing a program to prevent the spread of HIV is to assess the extent and seriousness of the problem in a community. While the prevalence of HIV infection in the community may determine how intensive and extensive a prevention campaign needs to be, it should also be kept in mind that *no one*, especially youth in high-risk environments, is completely safe from the virus. However, in areas of low prevalence, HIV infection prevention efforts might be more effectively incorporated into other types of education and prevention (e.g., health education, sex education, AOD use prevention).

A good place to begin is with the State or local health department; these agencies can provide current data about the incidence and prevalence of HIV infection in the community. Accurate, reliable facts about the extent and seriousness of the problem are essential.

If time and resources are available, it would be useful to conduct a survey of community knowledge, beliefs, attitudes, and concern about HIV infection. Community youth service-based programs might add a series of questions about HIV infection and sexual practices to their standard client intake questionnaires or interviews. This would provide a fairly accurate picture of the extent of the problem in their specific target population. Programs may need to first

¹ Currently, numbers of HIV infection cases are highest in New York, New Jersey, California, Florida, and Texas, especially in urban areas such as New York City, Newark, San Francisco, Los Angeles, Miami, Houston, and Dallas. Numbers are also high in Philadelphia, Chicago, Atlanta, Boston, and Washington, DC (CDC 1991a).

² This section is based, in part, on background papers prepared for the 1988 National Conference on the Prevention of HIV Infection and AIDS Among Racial and Ethnic Minorities in the United States, sponsored by the Centers for Disease Control. The section also draws on interviews conducted by Hank Resnik with staff members of various programs directed at youth in high-risk environments. Much of the material in this and the later resource sections of this report derive from a paper prepared by Resnik (1988) for OSAP.

determine community acceptability of asking questions about sexual practices.

Whenever possible, young people should be involved in developing and planning any prevention program for youth. Youth can help gather information about the HIV problem and assist in developing and implementing prevention strategies. Youth involvement and peer leadership have often been identified as factors that lead to program success in changing young people's behavior.

Involving Community Leaders and Opinionmakers

Key leaders and opinionmakers can be reached initially through such methods as a key informant survey (Lorion et al. 1991). They can be of considerable assistance in assessing needs and planning program strategies. Their ongoing support and visibility can also help make HIV infection prevention efforts respectable.

In seeking the support and participation of opinion leaders, consider involving people from the following areas:

- Local government
- The schools
- The law enforcement and juvenile justice systems
- The business community
- The medical and health professions
- The media
- Sports and entertainment
- Clubs, fraternal organizations, sororities, and service organizations

Especially of interest may be integrating efforts with school-based programs. Thirty-two States, as well as the District of Columbia, have mandated AIDS education in the public schools. (NASBE, 1991)

As yet, there is no standard format for delivering HIV education in schools, since this is primarily a matter for local decisionmakers and

their communities. Reportedly, because these efforts are so new, they have not been highly effective in producing real changes in high-risk behaviors (NAN 1989); however, schools in some communities might welcome assistance from outside prevention specialists. Others—one must caution—may be stifled by community opposition to teaching information that some citizens contend runs counter to moral or religious values (especially information related to condom use).

Assess Available Local Resources

To avoid duplication and identify preventive intervention gaps, it is critical to identify the resources that are available in the community for prevention and education about HIV infection. This assessment can begin by contacting such agencies and groups as the following:

- Health department
- School district
- American Red Cross, Planned Parenthood, and similar organizations
- Boys Clubs, Girls Clubs, and other youth-service organizations
- Religious organizations and churches
- Hospitals and clinics

A variety of resources may already be available, eliminating the need to reinvent the wheel.

Promote Collaboration

Working with various relevant organizations collaboratively will be essential. Contacting community leaders and opinionmakers will help initiate the process. In undertaking collaborative efforts, it will be critical, too, to make sure everyone shares a common understanding of such issues as the following:

- The extent and nature of the HIV infection problem in the community
- Community resources available for preventing the spread of HIV

- Effective HIV infection prevention approaches
- The special needs of youth in high-risk environments
- The importance of cooperation and collaboration, including ways to avoid conflicts over turf
- Ways in which HIV infection is related to other problems of youth, such as alcohol and other drug use

Review Information From National Resources

Various sources and types of information may be helpful. The resource list appearing at the end of this report gives many national organizations that will provide information, media, and curriculum materials that can be used in HIV infection prevention programs, much of it available at little or no cost. The information may help staff stay well informed about HIV infection and about the kinds of information and materials available to all concerned individuals and organizations. Keep in mind that all materials and audiovisual media need to be carefully screened for age group and cultural relevance and appropriateness.

Intervening With Youth

The prevention of HIV infection presents many complex conceptual, technological, policy, and practical implementation challenges.³ Programs must address private behaviors (sexual activities) and socially deviant behaviors (injected drug use and some sexual practices) that are often both embarrassing to discuss and difficult to change. These behaviors also elicit a diversity of moral/religious attitudes and a good deal of misinformation. Misinformation and fear about the disease itself are also common, and complex ethical and legal issues surround both testing for HIV antibodies and reporting of test results to sexual partners and authorities.

All these issues are compounded when programs are intended for youth. While there is public support for AIDS education in schools,⁴ there is also controversy over whether frank, explicit instruction will be allowed and whether students will be exempted from the class when a parent disapproves. In addition, the high dropout rate⁵ leaves many youngsters untouched by school interventions.

Legal and ethical issues related to HIV antibody testing and the inclusion of youth in research projects are more complex than those involving adults. Other complexities arise when youthful target populations comprise different age groups with varying levels of comprehension, reasoning abilities, and levels of experience in behaviors that place them at risk for HIV infection. Ethnic and cultural diversity further compound programming issues with youngsters.

While a substantial body of recommendations exist on developing and implementing prevention programs for youth, research evidence on the effectiveness of various strategies is sparse. No one framework can serve as a basis for program development, given the diversity among and within communities and among youth themselves. Thus, the strategies presented here represent a menu of possibilities—often insufficiently tested—from which programs can pick and choose and, when seemingly useful, tailor to the needs and values of their communities and target groups.

Mobilizing the Community

To be effective, an intervention program to prevent the spread of HIV among youth will require a coordinated, community-wide strategy involving youth-serving organizations (YSAs), other agencies that serve youth (e.g., health clinics and drug treatment programs), schools, the media, community leaders, grassroots groups, parents, and, especially, youth themselves. These prevention programs cannot exist in a vacuum. They must address both individual youths and the environment that influences their knowledge, beliefs, and behaviors related to HIV infection.

The "community" may be defined by various criteria, ranging from a specific geographic or neighborhood area to a smaller group of individuals who share a common racial, ethnic, or sexual identity or a common lifestyle (such as

³ Many of the strategies listed derive from Resnik's (1988) survey of AIDS prevention strategies.

⁴ In a national study, 98 percent of school administrators indicated that AIDS instruction belongs in the regular school curriculum; 85 percent believe that a discussion of safe sex along with abstinence is more realistic than abstinence alone (American Association of School Administrators, cited in CPO 1989). A recent Harris poll indicated virtually all parents (94 percent) favored AIDS education in the schools (cited in Turner et al. 1989, p. 304).

⁵ The nationwide dropout rate is 25 percent; in some communities, the rate is closer to 50 percent (National Policy Health Forum 1988).

runaway youth or incarcerated youth). Regardless of the definition of community, however, there will be individuals and organizations in the community who can be important allies in developing and implementing prevention programs. In many communities, schools or organizations (e.g., YSAs, Red Cross, AIDS demonstration programs) are planning to or have already begun to conduct interventions with youth to prevent the spread of HIV.

Strategies found useful in mobilizing the community include the following:

- Conduct a needs assessment (see previous chapter) and share these data with community members and organizations.
 - Create HIV task forces, interagency committees, and grassroots organizations focused on youth and HIV infection (or join existing groups). Coalition building and policy development can be achieved in such groups. They should represent a cross-section of adolescents, parents, YSAs, community leaders, and youth already affected by the disease. For maximum effectiveness, the process of policy development should include:
 - education to members on the potential long-term impact of HIV infection in the adolescent population and other facts about the virus;
 - development of a plan of action that defines the target population and intervention and is culturally sensitive and age appropriate (see Nelkin and Oliva 1989);
 - the service needs of youth at risk or already HIV infected, with eventual development of a comprehensive system of care (Garrison 1989) to which prevention staff can make referrals;
 - a set of guiding principles, including policies pertaining to confidentiality and privacy and consensus on the basic content of prevention curriculum and other interventions; and
 - procedures for continual coordination, monitoring of efforts, and assessment of
- program efforts. Ideally, a formal, longitudinal evaluation would be conducted to determine the long-term effects of different interventions with different segments of the target population.
- Coordinate program efforts with existing HIV infection prevention programs for youth in the community (especially school, drug abuse treatment, YSA, and health programs). This will prevent duplication of effort and, through sharing of resources, permit more extensive coverage of the target population.
 - Work with the media—TV, radio, newspapers (including school news groups)—to develop messages that will reinforce program intervention efforts. The media can play an important role in informing parents and youth about HIV and how people can develop relevant protective social skills (e.g., ways to resist peer pressure, how to ask questions, how to access information and services). The media can also help allay fears, prejudice, and stigmatization associated with HIV infection. At the community level, program goals are more likely to be adopted by the target population if program presentations are preceded by media messages that arouse awareness and interest. Social marketing techniques (e.g., use of focus groups with youth) provide tools that will influence the acceptability of the messages (see, e.g., Turner et al. 1989).
 - Use leaders—including youth leaders—to help disseminate information and interest youth in participating in the program. Use accepted opinionmakers to diffuse information through the media and to teach, persuade, and serve as role models.
 - Use accepted youth and parent groups to reach youth and, if appropriate, assist in the intervention. The organizations might include community recreation centers, Boy Scouts, Girl Scouts, 4-H Clubs, student groups, and PTAs (Resnik 1988).

- Make condoms available to young people by reducing cost and increasing distribution (if acceptable to the community). Mass condom-distribution campaigns in Atlanta and New York City have been instituted, and safe sex kits (containing condoms and information relevant to AIDS) have been distributed on some college campuses (Hein 1989). "In a recent study of Washington, DC, drug and convenience stores, teenagers found it difficult to find and buy condoms, and females had more negative experiences buying condoms than did males" (CPO 1989).
- Advocate for funding for expanded programs for preventing HIV infection among youth through collaboration with other agencies. Monies are available through a variety of Federal, State, local, and public and private agencies (see, e.g., Hein 1989, p. 32S).

A San Francisco community-based AIDS prevention education program, targeted to homosexual and bisexual men, appeared to produce substantial decreases in high-risk behaviors. Whether the findings are generalizable to youth is undetermined and questionable. Nevertheless, the seven program elements associated with this successful community-based program are worth noting (Communication Technologies, cited in Turner et al. 1989, p. 296):

1. Strong leadership from within the targeted community
2. Use of market research techniques to identify appropriate messages and communication channels to reach the target group
3. Intervention programs to inform and motivate the target population
4. Activities to facilitate social and cultural change
5. Use of multiple communication channels
6. Grassroots participation
7. Research that documents baseline levels of high-risk behaviors as well as behav-

ioral change and, when possible, identifies factors related to change

In planning community-wide prevention programs, planners may find it useful to consult national organizations or State education personnel. A listing of such agencies appears under resources.

Developing Intervention Strategies

Involving youth and the community in the development of intervention strategies will enhance their acceptance and, in all likelihood, their effectiveness. To date, efforts are hampered by the lack of sound impact evaluation data on AIDS prevention and related programs as well as the effectiveness of the many educational materials developed for AIDS prevention education (see resources for several packages). Several strategies may be useful in developing interventions:

- Review the literature (local and general publications) on sex education in schools. Schools are highly involved in education on HIV infection, and both school-based sex education and health clinics have been recommended by such prestigious groups as The Presidential Commission on the Human Immunodeficiency Virus Epidemic and the Institute of Medicine/National Academy of Sciences as essential parts of efforts to interrupt the spread of the virus (Turner et al. 1989). It is likely that youth served by a non-school-based program will have received information on AIDS prevention through the school. Research indicates that sex education programs have not been very effective. Typically, they increase knowledge but fail to change attitudes or behaviors (Kirby 1988). New programs can build upon what is taught, however, and, where necessary, fill in the gaps of existing programs.
- Screen existing materials (see resources) to determine whether any appear appropriate. Involve youth in this process. Find-

ing appropriate existing materials can prevent reinventing the wheel.

- Consult with existing programs that focus on a particular target group (see resources).
- Pay particular attention to two educational models that appear most effective:
 1. *Role-playing and skills training*—both appear to help youth increase their ability to resist social and peer pressure, including pressure to engage in early sex.
 2. *Multifaceted, community-wide campaigns* that shower teens with messages that reinforce prevention messages (National Health Policy Forum 1988).
- Pilot test interventions, whenever possible, to determine effectiveness and need for modification.

Some fundamental themes in promoting behavior change can serve as guidelines:

1. If individuals are to change, they must recognize the problem, be motivated to act, and be armed with the knowledge and skills necessary to perform the action.
2. If the likelihood of an action is to be increased, barriers in the social environment must be removed or weakened and inducements for change provided whenever possible (Turner et al. 1989).

In the case of HIV infection, innovations are likely to be required, and interventions must be tailored to the needs, values, and developmental stage of the target population. Some general factors are likely to help youth abstain from or change risk behaviors and sustain behavior changes. In developing intervention strategies, the following should be considered:

1. Provide accurate, age-appropriate culturally sensitive information. Language should be frank and concise. Correct rather than vague terms should be used (e.g., names of body parts, i.e., penis,

vagina, rather than euphemisms such as private parts). Personalize information, whenever possible, to allay fears and misconceptions. Deal directly with homophobia and help clarify values.

2. Use fear messages sparingly, if at all. Evoking high levels of fear is ineffective. If this technique is used, introduce fear in the right way for each audience. The level of fear invoked should be sufficient to create awareness of the problem but not so high that it will evoke denial. Couple fear components with advice on how behavioral change can reduce the threat. (For a recent review of research on effective and ineffective use of fear in health promotion campaigns, see Job 1988.)
3. Empower youth. Use of condoms, for example, will depend on the youths' sense of empowerment—whether they perceive themselves as being capable of making the necessary behavior change. Repetition of difficult behaviors found to be protective can enhance perceptions of self-efficacy and reduce defensive behavior (see Turner et al. 1989, pp. 278-79).
4. If age appropriate, provide cognitive self-management training (Turner et al. 1989, p. 285).
5. Explore attitudes related to risk and risk reduction (e.g., condom use) with youth.
6. Develop skills, e.g., on how to purchase condoms, how to use condoms correctly, how to say no to sex or sex without condoms, or no to drug use.
7. Combine approaches.
8. Intervene in a holistic way—consider the psychological, social, biological, and environmental factors that impact on youth and their reasons for engaging or not engaging in high-risk behaviors or risk reduction behaviors and sustaining or failing to sustain high-risk behaviors.
9. Assess intervention effectiveness on an ongoing basis. Modify strategies when

findings point to ineffective approaches or the need for revisions.

10. Involve youth as resources—reviewers, counselors, group leaders, and so on.
11. If youth request HIV antibody testing, programs will need to address the following questions:
 - Do adolescents in the target community have the legal right to be tested without parental consent?
 - Can groups of adolescents decide whether they should be tested (e.g., incarcerated youth) and, if they decide affirmatively, should they be tested?
 - Do adolescents have the same right to privacy as adults? Should minors have access to anonymous testing? Should parents, sexual partners, or other adults (e.g., dentists) be notified if a youth is seropositive?
 - Should the adolescent be notified of test results and informed about the sensitive and legal issues involved in testing? Should test results ever be withheld? Do adolescents have the right not to know?
 - What are the implications if adolescents know they are seropositive and make no effort to change risk behaviors and continue to place others at risk?
 - Is quality pretest and posttest counseling available? If not, should adolescents be offered testing?

Programs need to settle these intervention issues early, since some proportion of adolescents may request testing (see Hein 1989).

Providing Interventions: Examples From the Field

There are no well-tested AIDS prevention interventions for youth other than school-based programs. Anecdotal information and experi-

ence of interventionists suggest, however, that some strategies are useful. A few are presented here for consideration by planners and interventionists.

School-Based Programs

Many AIDS prevention efforts are underway in schools. Few details seem available on the specifics of these programs. A review of 18 school AIDS curricula by CDC staff showed that two-thirds of the programs were provided in a single 1-hour or one-class session; only 1 in 10 provided more than 3 hours on HIV infection. One-quarter of the curricula did not address condom use or abstinence. Fewer than one-third mentioned that sex between *uninfected* partners could not spread the disease, that counseling should be sought if one had personal concerns, or that condoms and spermicides should be used together. Only 22 percent of the curricula emphasized that behavior places people at risk, and over half inappropriately emphasized high-risk groups. Only 39 percent mentioned vaginal intercourse, though 50 percent mentioned oral intercourse and 61 percent, anal intercourse (Haffner 1987). In summary, the curricula ignored what has been learned in health promotion. However, the following may be of interest to prevention program planners:

- CDC, a major sponsor of school-based programs, has provided support to revise two comprehensive school health curricula to address HIV infection. These are:
 - *Growing Healthy*, an elementary school curriculum, and
 - *Teenage Health Teaching Modules*, a secondary school curriculum.

In addition, CDC has provided assistance for related materials:

- *A Guide for Today's Young Adults. AIDS: What Young Adults Should Know.*
- A computer-assisted tutorial about HIV infection and other STDs for junior and senior high school students (Tolsma 1988).

New York City schools include in their HIV education a video whose on-camera narrator is Rae Dawn Chong, a well-known young actress, thus making use of a good opinion leader.

- Controlled studies of prevention education efforts in high school classrooms with Asian and White students in San Francisco and Seattle indicated that students who received the education had a significant increase in general knowledge about HIV infection compared to controls who did not receive the intervention (DiClemente et al. 1987; Donner 1987). The Seattle program also showed increases in tolerant attitudes toward HIV-infected persons and an increase in perceived threat of HIV infection, though all increases were small (Donner 1987).
- One school-based program addressed social skills as well as general HIV knowledge and was enthusiastically supported by teachers (Sroka et al. 1987).

Outreach to Non-School Groups

Agencies are beginning to develop innovative programs to provide comprehensive, appropriate information to teens who have dropped out of school:

- Covenant House's outreach program uses vans to cruise areas frequented by street kids. The workers attempt to establish relationships with the adolescents and give them HIV counseling, information, and referral to other services.
- The National Network of Runaway and Youth Services' "Safer Choices" program has developed an HIV curriculum for staff of YSAs to reach teens who come in contact with the agencies.
- A program for runaway youth developed (after pilot testing) by the HIV Center for Clinical and Behavioral Studies, New York City, uses a cognitive behavioral model that provides (1) a general knowledge of HIV infection (e.g., transmission

modes, high-risk behaviors, prevention strategies), (2) personalized knowledge of HIV infection (e.g., perceived threat of AIDS, personal efficacy regarding behavior change, belief that change can be made), (3) coping skills (cognitive, affective, behavioral), and (4) access to resources (Rotherman-Borus et al. 1988).

One benefit of these types of outreach appears to be that teens disseminate the information to other teens. For every adolescent reached, several more may receive program information through the street communication network.

HIV Infection Prevention for Adolescent Injected Drug Users

The National Institute on Drug Abuse sponsors the National AIDS Demonstration Research Project designed to provide HIV education and risk reduction interventions to injected drug users who are not in the drug abuse treatment system, as well as interventions for sexual partners of injected drug users. A number of these programs target adolescent as well as adult injected drug users/partners. Data are being collected through baseline interviews and 6-month followup interviews. No data have yet been analyzed on adolescents, but are expected soon. However, preliminary data on adult injected drug user participants indicate the programs are having positive effects on some participants—that is, decreasing unsafe sexual and drug use practices.

Using Adolescents as Resource Groups

A number of programs have formed youth resource groups:

- Youth have been used in focus groups to test the appropriateness and appeal of brochures and educational campaigns sponsored by the New York City Department of Health (Hein 1989).

- An AIDS Hotline in Bethesda, Maryland, uses volunteer high school students trained to answer questions and make referrals (Hein 1989).
- A youth AIDS Task Force was formed by the American College Health Association to develop and oversee educational and service activities on campuses; the effort includes use of peer counselors (Hein 1989).
- Trained school students serve as peer leaders who provide accurate information about HIV infection and prevention to other young people in formal presentations and everyday interactions. Developed by the Medical Foundation of Boston, the Peer Leadership/Preventing AIDS project has trained more than 400 high school students over the years in AOD use prevention. Peer leaders do not tell others what to do. They provide factual information, help others make health decisions, and foster an atmosphere of positive support. The HIV peer leaders are selected from public, private, and parochial schools. The Foundation has found leadership to be a very effective strategy in health education.⁶
- High school students in the Teens for AIDS Prevention Programs, sponsored by the Center for Population Options, develop their own brochures and serve as AIDS prevention counselors in their schools (NAN 1989).
- Teens dramatize HIV-related issues for minority urban youth audiences through the Latin American Youth Center LATINEGRO Theatre project (NAN 1989).
- Peer support groups are used by YSAs for HIV-infected teens (NAN 1989).
- Medical students have been mobilized in various communities to hold workshops, interact (e.g., through skits), and talk to

younger students about HIV infection. Medical students seem to feel behavior change is best accomplished through interactive skits (Epstein 1989).

- A music contest for teens to develop a 60-minute prevention Rap in a culturally relevant manner was sponsored by the San Francisco City Department of Public Health and the Bayview-Hunters Point Foundation (Fullilove 1987).

In summary, teens can be effective educators. Roles they can play effectively include organizers and leaders of prevention activities, advisors, models for other teens, and peer counselors.

Other Specific Strategies

Other programmatic strategies have been reported to be effective:

- Displaying condoms in attractive ways; making them easy to pick up.
- Role-playing in which girls develop answers for boys and vice versa on how to respond when a partner does not want to use a condom.
- Having teens develop two-line rhymes on condom use.
- Encouraging teens to carry a condom for a friend.
- Explaining that sexual intercourse is not necessary to give and receive pleasure.
- Educating teens not only on their rights in sexual behavior (e.g., the right to say no) but also on their responsibilities (e.g., not to become pregnant, not to transmit the virus if they think they may be infected).
- Providing an ample number of sessions or messages to allow teens multiple opportunities to assimilate the information (see, e.g., Mantell and Schinke 1988).
- Developing comic books for both gay and other youth. One, by the Health Educa-

⁶ For more information, contact Bradley R. Cohen, Health Educator, The Medical Foundation, 29 Commonwealth Avenue, Boston, MA 02116 (617-262-1530).

tion Resource Organization in Baltimore, deals with the importance of using condoms for safer sex and modes of disease transmission. It stresses that HIV infection is not a gay disease and that even healthy and clean-looking people can be HIV infected (Mantell and Schinke 1988).

- Using games and entertainment that make learning fun. For example:
 - *To teach anatomy.* Pass out play dough, pipe cleaners, Easter grass, and colored eggs. Ask youth to form groups to build the male and female reproductive systems. Help them correct their models by teaching some basic anatomy and physiology. Help them understand how to avoid sexually transmitted diseases and HIV infection.
 - *To teach about the immune system.* Enact the immune system in military

fashion. Appoint viruses (the invaders), macrophages (the scouts who notify the general of the invasion), T-4 cells (the general), B-plasma cells (the foot soldiers), their weapons (antibodies), B-memory cells (the computer corps or data bank), and the T-8 cells (the clean-up crew). Let the viruses kidnap the general T-4s. Then bring in pneumocystis carinii pneumonia (common in AIDS patients) when the generals are not available to direct the foot soldiers so the battle cannot be fought and opportunistic infections can take over (NIDA 1989b).

- Involving significant others in the intervention, especially the family. Family support has been shown to be important in cuing and reinforcing health-related behavior changes (Turner et al. 1989, pp. 291-193).

Summary

Today's adolescent faces the grave risk of becoming infected with the human immunodeficiency virus. It appears the greatest risk is to those who inject drugs and those who have sexual relations with an HIV-infected partner or an injected drug user. Use of noninjected substances, especially crack cocaine, increases the likelihood that youth will engage in high-risk sex. Current data show that youth from racial/ethnic populations are at highest risk for HIV infection and that adolescent girls may be particularly vulnerable to infection through heterosexual relations with an infected partner.

AOD use prevention programs are in an excellent position to take an important role in

preventing the spread of HIV among youth. HIV prevention can be effectively integrated with AOD use prevention efforts using many already available resources.

Staff will need to become knowledgeable about HIV infection and how it can be prevented. However, by using their skills in coordinating with other community resources as well as those they use in working directly with youth AOD use prevention, staff can reach youngsters at risk for HIV infection, communicate sensitive information about drug and sexual risk behaviors (in accordance with community values), motivate youth to change attitudes and behaviors that place them at risk, and assist them in sustaining positive behavior changes.

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Resources

National Information Centers and Hotlines

AIDS Resource Center

24 W. 30th Street
New York, NY 10001
212-206-1414

Offers resource information and numerous publications.

AIDS Surveillance Program

The Preventative Health Services
Administration
1660 L Street NW
Washington, DC 20036
202-673-7700

Offers resource information and numerous publications.

AIDS Teenager Hotline

1-800-234-TEEN

Staffed by trained teenage volunteers, available Mondays through Saturdays, 4 to 8 p.m. central time.

American Red Cross

AIDS Public Education Project (PEP)
National Headquarters
Suite 208
1709 New York Avenue NW
Washington, DC 20006
202-662-1580

Public education and films on AIDS and numerous publications.

Center for Population Options

Wanda Wigfall-Williams
Director of Adolescent and HIV Prevention
Initiatives
Suite 1200
1012 14th Street NW
Washington, DC 20005
202-347-4700

This group is working with adolescent reproductive rights issues.

Centers for Disease Control

AIDS Activity
Room 292, Building 6
1600 Clifton Road
Atlanta, GA 30333
1-800-447-AIDS
1-800-342-AIDS for 24-hour tape-recorded messages about AIDS.

CDC is the main coordinating mechanism for information and materials about AIDS (as well as the major funding source for many programs). CDC regularly provides statistics on the prevalence of AIDS through surveillance reports and other publications that can assist prevention programs in needs assessment and planning.

Health Education Resource Organization (HERO)

101 W. Read Street
Baltimore, MD 21201
301-948-AIDS or
1-800-638-6252

Offers information, safe sex guides, and counseling services. Publications include *Safe Sex for Men and Women Concerned About AIDS*, *Plain Talk—Safe Sex and AIDS*, and brochures about the risks of AIDS.

Johns Hopkins Hospital

Division of Infectious Diseases
Baltimore, MD 21205
301-955-3150

Answers general questions about AIDS.

National AIDS Hotline

1-800-342-AIDS
1-800-243-7889 for hearing impaired
1-800-344-7432 for speakers of Spanish

Provides education and general information, including information about AIDS, over the telephone; pamphlets; and referral for testing, counseling, and medical services.

National AIDS Information Clearinghouse

P.O. Box 6003, Department MAC
Rockville, MD 20850
1-800-458-5231

Call for bulk orders of pamphlets or to speak with a reference specialist who can assist with extensive data base searches and information about AIDS prevention programs.

National AIDS Network

Suite 601
1012 14th Street NW
Washington, DC 20005
202-347-0390

The national resource center for more than 450 organizations that provide community-based AIDS education and services. Members include local service providers affiliated with health departments, hospitals, drug rehabilitation centers, universities, and independent agencies. Services include an information clearinghouse, a directory of programs and organizations, technical assistance information packets, and a minority affairs program.

National Association of People With AIDS

P.O. Box 65472
Washington, DC 20035
202-955-3150

Offers resource information and numerous publications.

National Coalition of Hispanic Health and Human Services Organizations (COSSMHO)

Suite 1053
1030 15th Street NW
Washington, DC 20005
202-371-2100

A private, nonprofit organization dedicated to improving the health and psychosocial well-being of the Nation's Hispanic population. Services include research, demonstration programs, materials development, and policy analysis. COSSMHO has developed an AIDS prevention program as part of a cooperative agreement with the Centers for Disease Control.

National Hemophilia Foundation of DC

P.O. Box 2644
Fairfax, VA 22031
703-352-2144

Offers resource information on AIDS, referral services, and numerous publications.

National Institute of Allergy and Infectious Diseases

National Institutes of Health
Room 7A32, Building 31
Bethesda, MD 20892
301-496-5717

Offers resource information. Publishes *Facts About AIDS* and other documents.

National Lesbian and Gay Health Foundation

P.O. Box 65472
Washington, DC 20035
202-797-3708

Resource clearinghouse. Publishes the *Annual Directory of Lesbian/Gay Health Services*.

National Minority AIDS Council

714 G Street NE
P.O. Box 28574
Washington, DC 20038
202-544-1076

Dedicated to creating a greater, more coordinated response among people of color to the disproportionate effect of AIDS on minority communities. Programs include leadership, advocacy, and resource development. Provides a variety of materials and publications.

National Native American AIDS Prevention Center

5266 Boyd Avenue
Oakland, CA 94618
415-654-2093

Represents a network of health and human service community organizations concerned about the problem of AIDS among American Indians/Alaska Natives. Services its constituency through outreach training and technical assistance; a national toll-free hotline for the American Indian/Alaska Native community, on-line computer services for information sharing, a clearinghouse for AIDS educational materials targeted for American Indians/Alaska Natives, and a quarterly newsletter.

National Network of Runaway and Youth Services

Suite 411
906 6th Street SW
Washington, DC 20024
202-488-0739

Coordinates the efforts of more than 325 centers for services to runaways and homeless youth. Has developed a comprehensive AIDS curriculum and training program for program staff in cooperation with the Centers for Disease Control.

Richmond AIDS

Information Network
Free Clinic
1721 Hanover Avenue
Richmond, VA 23220
804-358-6343

Provides counseling services, support groups, financial and legal referral services, and general information.

St. Francis Center

5417 Sherier Place
Washington, DC 20016
202-363-8500

Provides counseling services for victims and their loved ones.

U.S. Conference of Mayors AIDS Program

Suite 400
1620 Eye Street, NW
Washington, DC 20006
202-293-7330

The U.S. Conference of Mayors is the official nonpartisan organization representing cities with populations of 30,000 or more. The program has two main purposes: to disseminate information among local officials and decisionmakers addressing AIDS-related issues and policies and to assist community-based organizations in their AIDS-related efforts. Provides grants to community-based organizations and a variety of information and publications.

Whitman-Walker Clinic, Inc.

1407 S Street NW
Washington, DC 20009
202-332-5296 (clinic)
202-332-AIDS

Offers support services, clinical evaluation service, community education, and risk reduction programs. Provides numerous publications.

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Ellen Mellott
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Hathaway Building
Cheyenne, WY 82002
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Resources for Legal Issues and State Laws

AIDS Civil Rights Project

National Gay Rights Advocates
540 Castro Street
San Francisco, CA 94114
American Civil Liberties Union

AIDS Project

132 West 43rd Street
New York, NY 10035
212-944-9800

Asian American Legal Defense & Education Fund

99 Hudson Street, 12th Floor
New York, NY 10013
212-966-5932
Lambda Legal Defense and Education Fund
666 Broadway
New York, NY 10012
212-995-8585

Litigates cases involving AIDS-related discrimination, negotiates with government officials over AIDS legal issues. Publishes the *AIDS Legal Guide* (\$15.00).

Intergovernmental Health Policy Project

AIDS Policy Center
George Washington University
2021 K Street NW, Suite 210
Washington, DC 20007
202-676-8144

National Lawyers Guild AIDS Network

558 Capp Street
San Francisco, CA 94102
415-824-8884

Resources in Cities With a High Incidence of Aids

American Foundation for AIDS Research

1515 Broadway, Suite 3601
New York, NY 10036
212-719-0033

S F AIDS Foundation

333 Valencia Street, 4th Floor
San Francisco, CA 94103
Toll-Free: 1-800-367-2437

Curricula

AIDS Prevention Program for Youth. Developed by the American Red Cross. The materials include the popular videotape "Letter from Brian," a teacher's manual, student workbooks, and a brochure for parents. Contact your local Red Cross chapter.

AIDS: What Young Adults Should Know. An instructor's guide with lesson plans, activities, test questions, student worksheets, and handouts. For grades 7-12. Adult guide, 44 pp.; student guide, 20 pp. Available from:

American Alliance for Health, Physical Education, Recreation and Dance
1900 Association Drive
Reston, VA 22091

Safe Choices: An AIDS Prevention Curriculum for High-Risk Youth. Developed and field-tested in New York City, Miami, Los Angeles, and

Seattle by the National Network of Runaway and Youth Services. Includes several modules featuring staff training, organizational policymaking, and peer training. For more information, contact:

Joy Coburn, Director
National Network of Runaway and Youth Services
1400 Eye Street NW, Suite 330
Washington, DC 20005

Teaching AIDS. Includes seven lesson plans, worksheets, and a resource list. \$14.95, plus \$2.24 shipping.

ETR Associates
1700 Mission Street
P.O. Box 1830
Santa Cruz, CA 95061

General Information Materials

AIDS and the Education of Our Children: A Guide for Parents and Teachers. An overview of AIDS education approaches, including guidelines for selecting AIDS curricula. Single copies available at no cost from:

Consumer Information Center
P.O. Box 100
Pueblo, CO 81002

AIDS Answers for Teens, by Linda Schwartz. Provides information in a question-and-answer format and offers followup activities for teaching junior and senior high school students. \$4.95 plus \$1.50 for handling. Available from:

The Learning Works
P.O. Box 6187
Santa Barbara, CA 93160

AIDS: From the Beginning. A compendium of articles on AIDS from the *Journal of the American Medical Association*. Available from:

AMA Book and Pamphlet Fulfillment
Department
535 N. Dearborn Street
Chicago, IL 60610
Toll-free number outside Illinois:
1-800-621-8335
Toll call inside Illinois: 312-645-4987

AIDS Information Resources Directory. Descriptions of over 1,000 brochures, pamphlets, videotapes, films, curricula, posters, public service campaigns, manuals, and periodicals. \$10.00. Available from:

American Foundation for AIDS Research
40 West 57th Street, Suite 406
New York, NY 10019-4001

Advice for Life: A Woman's Guide to AIDS Risks and Prevention by Chris Norwood (Pantheon 1987).

Criteria for Evaluating an AIDS Curriculum. A useful booklet that provides guidelines for AIDS education for grades K-12. Available from:

National Coalition of Advocates for Students
100 Boylston Street, Suite 737
Boston, MA 02116-4610

Effective AIDS Education: A Policymaker's Guide. An overview of AIDS education issues and policies. Available from:

National Association of State Boards of
Education
1012 Cameron Street
Alexandria, VA 22314

Many Teens Are Saying No. A directory of adolescent family life programs and projects. Available from:

Family Life Information Exchange
Bethesda, MD 20814
301-907-8198

Tip Sheets on points to consider when addressing special populations of youth are available from the Minority Affairs program of the National AIDS Network. Contact:

NAN
Minority Affairs Program
Suite 800
2033 M Street NW
Washington, DC 20036

Media

Note: None of the following has been reviewed for this chapter. Although all have been recommended by knowledgeable sources, prescreening is strongly recommended.

Drugs and AIDS: Getting the Message Out. A half-hour videotape designed to raise community awareness about drugs and AIDS and demonstrate successful strategies communities have used in dealing with the problem. Developed for the National Institute on Drug Abuse. For information, call 1-800-445-1964.

Face to Face With AIDS. A video-novela for AIDS prevention cowritten by and starring Hispanic teenagers. For a free preview or more information, contact:

Novelka Health Foundation
2524 16th Avenue S.
Seattle, WA 98144
206-325-9897

Sex, Drugs, and AIDS with Rae Dawn Chong. Also, *The Subject Is AIDS*. For a free preview, contact:

Education Film and Video
Suite 305
74 Varick Street
New York, NY 10013
212-431-8923

Till Death Do Us Part. A film about AIDS and IV needle use created and performed by the members of the Everyday Theater Youth Ensemble, Washington, DC. Combines rap music and dance. Available from:

Durrin Films
1748 Kalorama Road NW
Washington, DC 20009
202-387-6700

Recent Resource Directories

The Changing Face of AIDS: Adolescents and HIV Infection. A report published in April 1989 by the Center for Population Options. The 21-page report provides an overview of HIV infection among adolescents and resources. To obtain a copy, contact:

Center for Population Options
Suite 1200
1012 14th Street, NW
Washington, DC 20005
202-347-5700

Learning AIDS: An Information Resources Directory. Features a section reviewing and listing the availability of brochures, posters, books, videos, and instructional programs for youth populations. The directory is available for \$24.95 from:

The American Foundation for AIDS
Research
1515 Broadway
New York, NY 10109-0732

Recent Publications on HIV and Adolescents

AIDS and Adolescents: Exploring the Challenge. A special issue of the *Journal of Adolescent Healthcare*. Ethical and legal issues in research and intervention, AIDS prevention and education, service/treatment issues, and AIDS policies on youth are covered. It is available for \$25.00 per copy from:

The Journal Fulfillment Department
Elsevier Science Publishing Co., Inc.
655 Avenue of the Americas
New York, NY 10010

The AIDS Challenge: Prevention Education for Youth People edited by Marcia Quackenbush,

Mary Nelson, and Kay Clark. Brings together a body of specialized knowledge about AIDS education for young people. Chapters written by national and international experts address a wide range of topics. Available from:

Network Publications
ETR Associates
P.O. Box 1830
Santa Cruz, CA 95061-1830

Counseling Lesbian and Gay Male Youth: Special Lives and Special Needs edited by Sage Bergstrom and Laurence Cruise. A collection of

articles by youth service providers covering a range of areas and issues to be considered in working with lesbian and gay youth, including those of racial and ethnic minority populations and youth in residential facilities. Available for \$10.50 from:

National Network of Runaway and Youth Services
Suite 330
1400 Eye Street NW
Washington, DC 20005



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National Clearinghouse for Alcohol and Drug Information
P.O. Box 2345
Rockville, MD 20852

